

REMARKS

The Office Action mailed February 13, 2008 has been received and noted. The following remarks are being submitted as a full and complete response thereto. Authorization is granted to charge counsel's Deposit Account No. 01-2300, referencing **Attorney Docket No. 030687-00234**, for any additional fees necessary for entry of this Response. Reconsideration of this application is respectfully requested in view of the following remarks.

Informal Matters

In the Office Action mailed February 13, 2008, the specification was objected to for informalities. The objections are respectfully traversed and reconsideration is requested.

Paragraphs [0001] and [0060] have been amended in response to the Examiner's objections. If any additional amendment is necessary to overcome the objections, the Examiner is requested to contact the Applicant's undersigned counsel.

Rejections Under 35 U.S.C. § 103(a)

Independent claims 1, 13, 22 and 26 and dependent claims 2-5, 9-12, 14-17 and 28-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee (U.S. Patent No. 4,789,801) (hereinafter "Lee") in view of the Applicants' supposed admission. Dependent claims 3, 4, 6, 16-18, 23-25 and 27-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee "as modified by" Applicants' supposed admission and further in view of Natarayan et al. (U.S. Patent No. 4,264,343) (hereinafter "Natarayan"). Dependent claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Applicants'

supposed admission and Natarayan and further in view of Weinberg (U.S. Patent No. 6,042,637) (hereinafter "Weinberg"). Independent claims 19 and 31 and dependent claims 3, 4, 6, 16-18, 20, 21, 23-25, 27-29 and 34-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee "as modified by" Applicants' supposed admission and in further view of Natarayan. Dependent claim 32 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee "as modified by" Applicants' supposed admission and Natarayan and in further view of Krause (U.S. Patent No. 6,056,808) (hereinafter "Krause"). Dependent claim 33 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee "as modified by" Applicants' supposed admission and Natarayan and in further view of Satyapal et al. (U.S. Patent No. 5,879,435) (hereinafter "Satyapal"). Independent claim 37 and dependent claims 38-39, 41 and 42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee "as modified by" Applicants' supposed admission and/or Natarayan and Krause. Dependent claim 40 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee "as modified by" Applicants' supposed admission and/or Natarayan and Krause and further in view of Satyapal. The above rejections are respectfully traversed and reconsideration is requested.

Particularly with respect to independent claims 1, 13, 19, 22, 26, 31 and 37, it is submitted that Lee, either considered independently or in the alleged combinations with the supposed admission by Applicants, Natarayan and Krause, neither discloses nor suggests the electro-kinetic air transporter-conditioner systems or associated method, as respectively claimed. More particularly, independent claims 1 and 37 recite, in part, a driver electrode located "at least partially within an interior" of a ring collector electrode. Independent claims 13 and 19 recite, in part, a driver electrode and an insulated driver electrode, respectively, located "at least partially within an interior" of a ring collector electrode and "generally radially centered within the interior" of a ring collector electrode. Independent claim 22 recites, in part, a method providing

a driver electrode located “at least partially within” a ring collector electrode and independent claim 26 recites, in part, providing a driver electrode “at least partially surrounded by” an inner surface of a ring collector electrode. Independent claim 31 recites, in part, an insulated driver electrode located “at least partially within an interior” of a ring collector electrode. Lee, either considered independently or along with the supposed admission by Applicants, does not disclose or suggest the apparatuses or method, as claimed.

Rather, Lee discloses an “electrode array pair configuration suitable for use in electric fans and precipitators” (column 5, lines 66-68) in which electrodes are spaced apart from each other by well defined distances. As Lee discloses in column 6, lines 5-10, this electrode array pair configuration has maxisectional electrodes 58’ “elongated to increase the area for electrostatic precipitation” as well as minisectional electrodes 60’ positioned “equidistant from the two nearest maxisectional electrodes” (column 6, lines 14-16). Lee labels this separation distance D in Fig. 3 and labels the spacing between maxisectional electrodes as B. Lee suggests that the separation of components in the electrode configuration is integral to the apparatus by explicitly specifying that “B is greater than $D/2$ and less than $2D$ ” in column 6, lines 8-12. Lee also discloses that there may be passive collector electrodes 62’ “positioned midway between each pair of maxisectional electrodes” (column 6, lines 28-31) and specifically shows the distance between the passive collector electrodes 62’ and the maxisectional electrodes 58’ as $B/2$ in Fig. 3. This sets the distance of separation between passive and maxisectional electrodes in the device of Lee in relation to the distance D described above. This arrangement is shown in Fig. 3 and no other arrangement of passive collector and maxisectional electrodes in “an electrode array pair configuration suitable for use in electric fans and precipitators” is disclosed in Lee. Fig. 3 further shows both the maxisectional electrodes 58’ and the passive collector electrodes 62’ as monolithic, planar, flat and parallel electrodes spaced apart from each other by

a distance $B/2$ that is substantially greater than the thickness of either the maxisectional electrodes 58' or the passive collector electrodes 62'.

As acknowledged by the Examiner, Lee does not disclose or otherwise suggest either the pin or ring electrode shapes that are claimed in independent claims 1, 13, 19, 22, 26, 31 and 37. The Examiner's reliance on the passive collector electrodes 62' of Lee as providing the claimed feature of driver electrodes "at least partially within an interior of the collector electrode" is accordingly misplaced. Rather Lee does not mention any such relationship between the electrodes in the above array nor does Lee, as suggested by the Examiner, show any such relationship.

It is further submitted that, in fact, the disclosed electrode array pair configuration, as well as the shapes of the electrodes in that configuration, actually preclude the possibility of such a relationship. Such is based on the description and figures of Lee. As mentioned above and as is shown in Fig. 3 of Lee, the passive collector electrodes 62' are between the planar maxisectional electrodes 58' such that there is significant distance between these components. That distance, $B/2$, is shown in Fig. 3 and explicitly referred to in the text, as cited above. There is no electrode configuration in Lee as suggested by the Examiner. The electrodes are rather physically separated from one another by specified distances. It simply cannot be maintained that physically separated electrodes lie within another, as claimed in independent claims 1, 13, 19, 22, 26, 31 and 37. Indeed, Fig. 3 of Lee shows the physical separation and the description indicates that distances B and D are integral to the apparatus of Lee. Particularly, Lee discloses the configuration as having the passive collector electrodes 62' "positioned midway between each pair of maxisectional electrodes" (column 6, lines 28-31). Since Figure 3 shows that the distance between the electrodes is many times their thicknesses, Lee is, in fact, indicating that the passive collector electrodes 62' are not even in the proximity of any one of the maxisectional

electrodes 58', much less "partially within" them, as suggested by the Examiner. Accordingly, it is respectfully submitted that each of the electrodes in the configuration of Lee is physically separated from one another and does not disclose the apparatuses or method, as claimed in independent claims 1, 13, 19, 22, 26, 31 and 37.

Furthermore, the electrodes of Lee, as cited by the Examiner, lack any shapes or features that would allow one electrode to lie within another even if they were not spaced apart according to the electrode configuration of Lee. Lee shows the electrodes in Fig. 3 as monolithic, planar, and parallel electrodes and does not disclose or suggest that any one of the electrodes lies within any other of the electrodes. Lee does not disclose or even suggest that either the passive collector electrodes 62' or maxisectional electrodes 58' can be other than the planar, parallel electrodes, as they are represented in Fig. 3. It is therefore respectfully submitted that the monolithic, planar, and parallel electrodes, as disclosed in Lee, do not disclose or suggest the claimed apparatuses and method, as claimed.

Nor does the supposed admission by Applicants cure the deficiencies of Lee with respect Lee's failure to disclose driver electrodes "at least partially within an interior of the collector electrode." In paragraph [0007] of the instant application, Applicants cite to Taylor et al. (U.S. Patent No. 6,176,977) (hereinafter "Taylor") as providing "another system, known as a pin-ring type system." As Applicants explain in paragraph [0007], the electrode configuration of Taylor is represented in FIG. 3 of the instant application. As Applicants explain in paragraphs [0007] and [0008] of the instant application, there is no driver electrode in the device of Taylor. Rather, FIG. 3 of the instant application shows, and paragraphs [0007] and [0008] describe, only pin-shaped electrodes 312 and ring-like electrodes 322. Further, FIG. 3 of the instant application shows and paragraphs [0007] and [0008] describe the pin-shaped electrodes 312 and the ring-like electrodes 322 as being physically separated from one another such that neither electrode is

within the other. Applicants state in paragraph [0007] that the pin and ring electrodes are “spaced apart” from each other. Thus Taylor and the supposed admission by Applicants in paragraph [0007], do not provide any driver electrodes or electrodes lying, even partially, within one another. It is respectfully submitted that Taylor and the supposed admission by Applicants do not disclose or suggest at least the claimed features of the driver electrodes, as claimed in independent claims 1, 13, 19, 22, 26, 31 and 37.

Nor does either Natarayan or Krause, considered either independently or in the alleged combinations with Lee and Applicants’ supposed admission, cure the deficiencies of the Examiner’s alleged combination of Lee and Applicants’ supposed admission with respect to the failure to disclose driver electrodes “at least partially within an interior of the collector electrode.” The Examiner relies on Natarayan to suggest “an electrode located between a pair of collector electrodes” wherein the electrode is insulated. Natarayan does disclose that a deflector electrode 23 can be located between collecting plates 19. However, the deflector electrode 23 and collecting plates 19 are shown as flat, planar plates in FIG. 16 such that neither, for reasons argued above, could possibly accommodate another electrode “within” it, as claimed in the independent claims of the instant application. Further, Natarayan discloses that “although the shape of deflector electrode is not critical” (column 8, line 28), “it is preferred that it be generally flat and parallel to the plates” (column 8, lines 29-30). Thus Natarayan specifies that these electrodes are flat and parallel to each other. Such does not disclose or suggest that either electrode lies “within” the other as in the present claimed invention. Rather, as the Examiner states on page 4 of the Office Action, the deflector electrode 23 is “located between a pair of collector electrodes.” The Examiner then relies on Krause to disclose “the optional use of a fan in an ion wind cleaning apparatus” (column 3, lines 36-42). Krause, as cited by the Examiner, discloses neither pin and ring electrodes, nor a driver electrode placed within a collector

electrode. Accordingly, such does not disclose or suggest the claimed apparatuses and method of the present invention.

Therefore, for at least these reasons, Lee, the supposed admission by Applicants, Natarayan and Krause, either alone or in alleged combination, do not disclose or suggest the apparatuses or method of independent claims 1, 13, 19, 22, 26, 31 and 37. The independent claims are therefore submitted as being patentable. Moreover, it is submitted that the dependent claims are allowable at least because of their dependency on independent claims 1, 13, 19, 22, 26, 31 and 37, respectively, and for the additional features that they recite. Reconsideration is therefore requested.

Dependent claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Applicants' supposed admission and Natarayan and in further view of Weinberg. Dependent claim 33 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee "as modified by" Applicants' supposed admission and Natarayan and in further view of Satyapal. It is respectfully submitted that neither Weinberg nor Satyapal, either considered independently or in alleged combinations with Lee, Applicants' supposed admission and Natarayan, cures the deficiencies of Lee, or the alleged combination of Lee with Applicants' supposed admission and Natarayan with respect to the failure to disclose driver electrodes "at least partially within an interior of the collector electrode," as claimed. The Examiner relies on Weinberg to teach "the provision of a catalyst for reducing the emission of ozone" in an air ionizer (column 3, line 65 – column 4, line 3). Weinberg does disclose the use of a catalyst to coat the metallic grid 24 of an air purifier. The Examiner relies on Satyapal to disclose "a lamp for reducing the amount of microorganisms in air" in an air ionizer (abstract). Satyapal does disclose the use of a germicidal lamp or lamps 50. However, neither Weinberg nor Satyapal discloses a particular electrode configuration, electrode shape or an electrode orientation.

Therefore, neither Weinberg nor Satyapal, as cited by the Examiner, discloses pin and ring electrodes, or a driver electrode placed within a collector electrode. Accordingly, Lee, the supposed admission by Applicants, Natarayan, Weinberg, and Satyapal, either alone or in alleged combination, do not disclose or suggest the apparatuses, as claimed.


For all of the above reasons, it is respectfully submitted that the pending claims are in condition for allowance and that a Notice of Allowability is earnestly solicited.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact the Applicants' undersigned counsel at the telephone number, indicated below, to arrange for an interview to expedite the disposition of this application.

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Respectfully submitted,

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